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Our Ref: IDW0405

[Translation]

NOTICE OF REASONS FOR REJECTION

Patent Application No.:	2003-545417
Drafting Date of Notice:	October 30, 2007
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Patent Office Examiner:	Hiroshi Takiguchi 3032 4E00
Representative Patent Attorney:	Jun Nakajima (and two others)
Applicable Article:	Articles 17-2(3), 29(2) and 36

The present application is rejected for the following reasons. Any opinions in this matter should be submitted in an Argument within three months of the mailing date of this Notice.

Reasons**Reason 1**

An amendment filed on October 22, 2003 does not satisfy the conditions stipulated in Article 17-2(3) of the Patent Law since the following recitations of the amendment are not deemed to be within the scope of the specification and drawings as originally filed.

Notes

The recitations "the first part and the second part together comprise the first singular functional feature" in Claim 1, "the singular functional feature composed of structures formed on each side of the web" in Claim 25 and "to make a singular functional feature composed of structures formed on each side of the substrate layer" in Claim 28 are not obvious from the disclosures of the originally filed specification.

Reason 2

The present application does not satisfy the conditions stipulated in Article 36(6)(ii) of the Patent Law, due to the following recitations of the claims.

Notes

"Mirror image area" recited in Claims is indefinite.

Further, the relationships between each pattern and a "mirror image area" are indefinite.

Reason 3

Since it is deemed that the invention according to the following claims of the present application could have been easily invented by a person having ordinary skill in the art to which this invention pertains on the basis of inventions disclosed in the following publications distributed in Japan or elsewhere, or inventions available to the public via electric telecommunication lines, before the filing of the present application, the present invention cannot be granted a patent on the basis of the provisions of Article 29(2) of the Patent Law.

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Notes (Refer to the "List of Cited References" at the end of this Notice)

Claims: 1-31

Cited References: 1-4

Remarks:

Matching both surface patterns is disclosed in cited reference 1 (see Fig. 5B), cited reference 2 (see Figs. 6-8) and cited reference 3 (see Fig. 3).

Etching and patterning are disclosed in cited reference 1 (see paragraph [0033]) and cited reference 4 (see paragraph [0020]).

Combining the above disclosures could be easily achieved by a person skilled in the art. Further, even if the claims were limited to the disclosures of the embodiments, such inventions could be easily achieved by a person skilled in the art by appropriately combining the disclosures of the cited references with techniques that were well known before the present application was filed.

List of Cited References

1. Japanese Patent Application Laid-Open (JP-A) No. 9-331596
2. Japanese Patent Application Laid-Open (JP-A) No. 47-13474
3. Japanese Patent Application Laid-Open (JP-A) No. 52-89911
4. Japanese Patent Application Laid-Open (JP-A) No. 11-88982

Record of Results of Prior Art Document Search

Technical fields searched: IPC H04R 9/00
C23F 1/00

Prior art documents found: Japanese Utility Model App. Laid-Open (JP-U) No. 51-103933
Japanese Patent Application Laid-Open (JP-A) No. 51-26522
Japanese Patent Application Laid-Open (JP-A) No. 10-341070

This record of results of prior art document search does not constitute a reason for rejection.

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1. A metal-containing web for use in a liquid-based etch process to make a first singular functional feature of a product unit, comprising:
 - an elongated substrate having first and second opposing surfaces;
 - a first metal-containing layer disposed upon the first surface of the substrate;
 - a first etch-resistant layer disposed upon the first metal-containing layer the first etch-resistant layer having a first pattern substantially defining a first part of the first singular functional feature of the product unit;
 - a second metal-containing layer disposed upon the second surface of the substrate; and
 - a second etch-resistant layer disposed upon the second metal-containing layer in register with the first etch-resistant layer, the second etch-resistant layer having a second pattern substantially defining a second part of the first singular functional feature of the product unit;wherein, the first part and the second part together comprise the first singular functional feature.
2. The web of claim 1, wherein the first and second metal-containing layers are of equal thickness.
3. The web of claim 1, wherein the first and second metal-containing layers are of unequal thickness.
4. The web of claim 1, wherein the first and second patterns comprise mirror image areas at least where the functional feature is defined.
5. The web of claim 1, wherein the first pattern further defines a second functional feature of the product unit.
6. The web of claim 1, wherein:
 - the first pattern further substantially defines at least part of a second singular functional feature of the product unit; and
 - the second pattern further substantially defines at least a part of the second singular functional feature of the product unit.
7. The web of claim 1, wherein the first and second metal-containing layers comprise aluminum foil.
8. The web of claim 1, wherein the first and second metal-containing layers comprise deposited aluminum-containing material.

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9. The web of claim 1, wherein the first and second metal-containing layer comprise copper foil.
10. A metal-containing web for use in a liquid-based etch process to make a planar speaker diaphragm, the planar speaker diaphragm having at least one circuit trace having functional areas for interacting with an externally imposed magnetic field, the web comprising:
 - an elongated substrate having first and second opposing surfaces;
 - a first metal foil layer disposed upon the first surface of the substrate;
 - a first etch-resistant layer disposed upon the first metal foil layer, the first etch-resistant layer having a first pattern defining at least the functional areas of the circuit trace;
 - a second metal foil layer disposed upon the second surface of the substrate; and
 - a second etch-resistant layer disposed upon the second metal foil layer in register with the first etch-resistant layer, the second etch-resistant layer having a second pattern defining at least the functional areas of the circuit trace.
11. The web of claim 10, wherein the first and second patterns comprise mirror image areas at least where the functional areas of the circuit trace are defined.
12. The web of claim 11, wherein the first and second metal foil layers are of equal thickness.
13. The web of claim 12, wherein:
 - the first pattern further defines the circuit trace in entirety; and
 - the second pattern further defines the circuit trace in entirety.
14. The web of claim 10, wherein:
 - the first pattern further defines the circuit trace in entirety;
 - the second pattern further defines the circuit trace in entirety; and
 - the first and second patterns comprise mirror image areas at least where the circuit trace is defined.
15. The web of claim 14, wherein the first and second metal foil layers are of equal thickness.
16. The web of claim 10 wherein:
 - the circuit trace is a main range circuit; and

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the first pattern further defines a tweeter circuit trace.

17. A metal-containing web for use in a liquid-based etch process to make an electronic circuitry surveillance device, the electronic circuitry surveillance device having at least one circuit trace having at least one inductor functional area and at least first and second charge storage functional areas, the web comprising:

- an elongated substrate having first and second opposing surfaces;
- a first metal foil layer disposed upon the first surface of the substrate;
- a first etch-resistant layer disposed upon the first metal foil layer, the first etch-resistant layer having a first pattern defining at least the inductor functional area and the first charge storage functional area;
- a second metal foil layer disposed upon the second surface of the substrate; and
- a second etch-resistant layer disposed upon the second metal foil layer in register with the first etch-resistant layer, the second etch-resistant layer having a second pattern defining at least the inductor functional area and the second charge storage functional area.

18. The web of claim 17, wherein the first and second patterns comprise mirror image areas at least where the inductor functional area is defined.

19. The web of claim 1, wherein the first and second metal foil layers are of equal thickness.

20. The web of claim 10, wherein the first pattern further defines a fusible link functional area.

21. A planar speaker diaphragm comprising:

- a single layer substrate having first and second opposing surfaces; and
- at least one circuit trace, the circuit trace having a first metal-containing part disposed upon the first surface of the substrate and a second metal-containing part disposed upon the second surface of the substrate in a substantially opposing relationship.

22. The planar speaker diaphragm of claim 21, wherein the circuit trace terminates at each end thereof in a respective bonding pad.

23. An electronic circuitry surveillance product comprising:

- a substrate having first and second opposing surfaces;

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an inductor trace, the inductor trace having a first metal-containing part disposed upon the first surface of the substrate and a second metal-containing part disposed upon the second surface of the substrate in a substantially opposing relationship;

a first charge storage patch disposed upon the first surface of the substrate and coupled to the inductor trace;

a variable impedance element disposed upon the second surface of the substrate and having a first end and a second end, the first end of the variable impedance element being coupled to the inductor trace; and

a second charge storage patch disposed upon the second surface of the substrate and coupled to the second end of the variable impedance element.

24. The electronic circuitry surveillance product of claim 23, wherein the variable impedance element comprises a fuse trace.

25. A method for demetallizing a web to make a singular functional feature of a product unit, the singular functional feature composed of structures formed on each side of the web, the method comprising:

applying a first etch-resistant pattern to a first metal-containing layer of the web, the first metal-containing layer being disposed on a first surface of a substrate of the web, wherein at least a portion of the first pattern substantially defines a first part of the functional feature of the product unit;

applying a second etch-resistant pattern to a second metal-containing layer of the web, the second metal-containing layer being disposed on a second surface of the substrate opposite the first surface, wherein at least a portion of the second pattern substantially defines a second part of the functional feature of the product unit;

exposing both sides of the web to a liquid etchant to effect removal of metal-containing material from areas of the web not protected by the first and second etch-resistant patterns; and

washing the etchant from the web.

26. The method of claim 25, wherein the exposing step comprises continuously passing the web in an immersed condition through a bath of liquid etchant.

27. The method of claim 25, wherein the exposing step comprises exposing the web to sprays of liquid etchant.

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28. A method of effecting selective demetallization of a web containing a flexible substrate layer to make a singular functional feature composed of structures formed on each side of the substrate layer, the method comprising:

applying a first patterned layer of sodium hydroxide-resistant material to a first aluminum layer disposed on a first surface of the substrate layer, wherein at least a portion of the first patterned layer substantially defines a first part of the functional feature;

applying a second patterned layer of sodium hydroxide-resistant material to a second aluminum layer disposed on a second surface of the substrate layer, the second surface of the substrate layer being opposite the first surface and wherein at least a portion of the second patterned layer substantially defines a second part of the functional feature;

continuously passing the web in an immersed condition through a bath of aqueous sodium hydroxide based solution to effect removal of aluminum from areas of the web not protected by the first and second patterned layers; and

washing the first and second aluminum layers free from spent sodium hydroxide based solution.

29. The method of claim 25, wherein the first metal containing layer of the web and the second metal-containing layer of the web are of equivalent thickness.

30. The method of claim 25, wherein the portion of the second etch-resistant pattern is applied symmetrical to and in registration with the portion of the first etch-resistant pattern.

31. The method of claim 25 further comprising electrically connecting the first part of the functional feature to the second part of the functional feature.